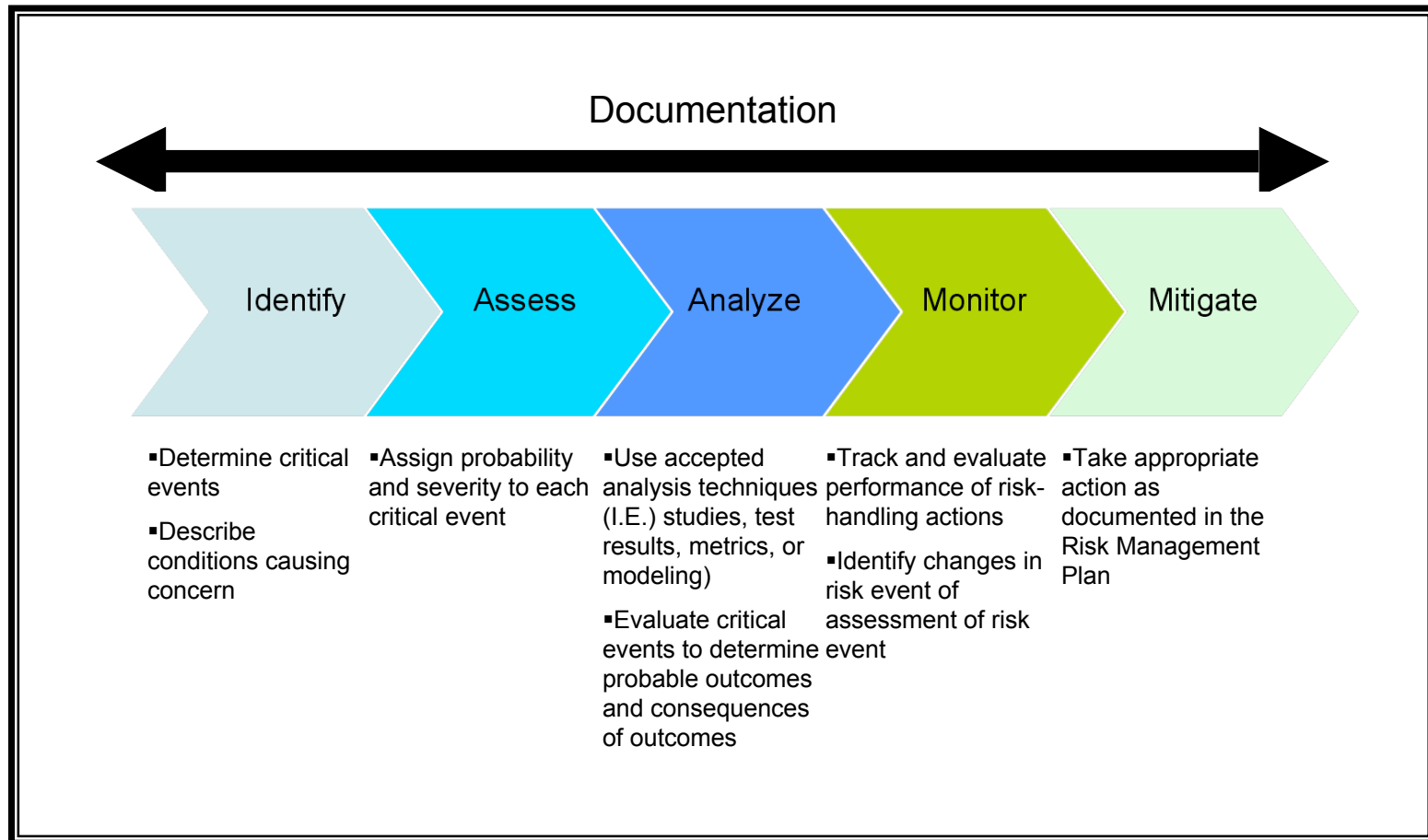


# Risk Management

# Risk Process



# Risk Identification Background

- **Risks identified using experience and technical insight**
  - **NERSC 2/3/4/5, NCS a/b**
  - **Other systems (LCFs, ASCI, PNNL, etc.)**
  - **Discussions with other sites**
    - e.g. 2007 *Petascale Systems Integration* and 2008 *Risk Management Workshops*
    - Center visits and contracts
    - Contracting expertise
  - **Vendor road maps**
    - Communications with vendors
    - Current assessments of technology
- **Entire team assessed and decided the risks priorities**
  - **Team monitors and updates risks**
  - **Some significant change may occur over time**
    - For example once there is a signed contract

# NERSC-6 Risks

## NERSC-6 Risk Register Summary

**Processing Date: 2008-06-25**

**Total Number of Risks: 41**

### Total

**Sum: 41**

*All risks in the risk register*



### Watch

**Sum: 10**

*Those risks in the watch list.*



### Current

**Sum: 6**

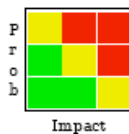
*Current risks such that the processing date falls between the early and late impact dates of the risk.*



### Near

**Sum: 0**

*The risks with an early impact date that starts within 30 days of the processing date.*



### Mid

**Sum: 6**

*The risks with an early impact date that starts 30 days after the processing date and 120 days before the processing date.*



### Far

**Sum: 29**

*All the remaining risks with an early impact date that starts 120 days after the processing date.*



- Risks are identified
- Assess risks for impact and likelihood and areas of impact
- Risk severity is calculated
  - Updated monthly
- Each risk has
  - Risk Monitor
  - Risk Trigger
  - Plan - how the risk will be managed and mitigated
  - Action - what will be done if the risk becomes reality
- Watchlist
  - 5-10 key risks to watch over the next 4 months
  - IPT reviews regularly
- Monitor

# General Risk Management Plan

- **There are a number of technical, cost and schedule risks. Many risks are mitigated by:**
  - Specific set of requirements in the Statement of Work (SOW).
  - Performance benchmarks.
  - Comprehensive and robust acceptance test.
  - Use of the SSP method to define overall performance requirements.
  - Ongoing metrics in the SOW for Steady State Operations.
  - Additional mitigation includes the NERSC staff having tremendous experience in fielding very large systems in an effective manner.
- **Risks are not separated by management and technical, but some risks have plans and/or actions that have a management approach rather than a technical**
  - Shifting Resources
  - Funding and budget changes
  - Vendor relations/management
  - Staffing and resources

# Example of *Management Risk*

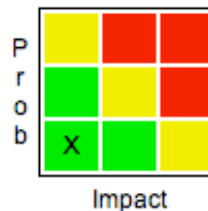
64 Severity: 0.25

Personnel changes

Likelihood: LOW

Impact: Low

Cost: Low  
Sched: Low  
Tech: Low



Trigger Dates: Dec 01, 2007- Dec 31, 2013

Risk Monitor: William Kramer

Status: Mitigate

Phase: 1.2 Project Planning & Preparation

WBS: 1.2

Type: Other

Changes in key NERSC-6 personnel may occur due to retirement, job changes, or for other reasons.

Cause: The NERSC-6 team is part of NERSC, a premier scientific computational resource with a highly trained but not overly large staff. If key NERSC-6 personnel were not to be available for whatever reason, then the NERSC-6 procurement and NERSC center could be adversely impacted. Complex procurement processes and system requirements could cause delays, or reliability and performance problems if there is a sudden and unforeseen change in the team.

Plan: There are no anticipated changes in the NERSC-6 team for the initial portion of the procurement process, and cross-training of NERSC center staff provides the cover for the span of tasks, such that if personnel changes occur alternative staff or duties can be reassigned as needed.

Action: Recruit or reassign the necessary staff to the NERSC-6 team when needed, and reassign job responsibilities to cover all the critical or major roles from the designated back-up staff.

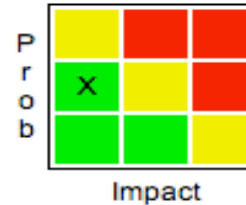
# Example of *Management Risk*

65 Severity: 0.50 Personnel availability

Likelihood: MED

Impact: Low

Cost: Low  
Sched: Low  
Tech: Low



Trigger Dates: Dec 01, 2007- Dec 31, 2013

Risk Monitor: William Kramer

Status: Monitor

Phase: 1.2 Project Planning & Preparation

WBS: 1.2

Type: Other

Key NERSC-6 personnel may become oversubscribed with regards to expected work duties and tasks.

Cause: The NERSC-6 team is part of NERSC, a premier scientific computational resource with a highly trained staff. However, the organizational structure does not have a surplus of staff and the team is not overly large and the team also have other duties. The number of required tasks and workload may exceed the available time of the current team.

Plan: The NERSC contract management will evaluate staff resources on a yearly basis or as needed to determine if there is sufficient staffing for the NERSC-6 team projected tasks and workload and the anticipated needs for the center, adjusting staff and group priorities as needed resolving any workload conflicts and schedules.

Action: Recruit more staff and reassign staff or priorities as needed to cover the required tasks and workload.